

## Effect Of Visible Light On Catalytic Hydrolysis Of P-Nitrophenyl Palmitate By The *Pseudomonas Cepacia* Lipase Immobilized On Sol–Gel Support

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### ABSTRACT

This paper demonstrates *Pseudomonas cepacia* lipase catalyzed hydrolysis of *p*-nitrophenyl palmitate under irradiation of light with wavelengths of 250–750 nm. The reaction follows Michaelis–Menten Kinetics and the light irradiation increases the overall rate of hydrolysis. Using Lineweaver–Burk plot  $K_M$  and  $V_{max}$  values for the reaction in presence of light are found to be 39.07 and 66.67 mM/min/g, respectively; while for the same reaction under dark condition, the values are 7.08 and 10.21 mM/min/g. The linear form of enzyme dependent rate of reaction confirms that no mass-transfer limitations are present and the reaction is a kinetically controlled enzymatic reaction.

**KEYWORDS:** Light irradiation, Hydrolysis, *Pseudomonas cepacia*, *p*-Nitrophenyl palmitate

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